

REMARKS

Applicant appreciates the Examiner's thorough examination of the subject application and requests reconsideration of the subject application based on the foregoing amendments and the following remarks.

Claims 1-7 and 9-16 are pending in the subject application.

Claims 1, 2, 4-7, 9 and 11-16 are acknowledged as being allowable by the Examiner.

Claim 8 was previously canceled.

Claims 3 and 10 stand rejected under 35 U.S.C. §103.

Claims 3 and 10 were amended for clarity and to more distinctly claim the present invention. In this regard, Applicant directs the Examiner's attention to page 47, lines 3-11 of the subject application for support as to the language added concerning the pre-processing addition of white data.

The amendments to the claims are supported by the originally filed disclosure. It also is respectfully submitted that the amendment(s) to the claims does/ do not require further search and consideration and thus, entry of these amendments into the subject application is respectfully requested.

35 U.S.C. §103 REJECTIONS

Claims 3 and 10 stand rejected under 35 U.S.C. §103 as being unpatentable over the cited prior art for the reasons provided on pages 2-7 of the above-referenced Office Action. Because

claims were amended in the foregoing amendment, the following discussion refers to the language of the amended claim(s). However, only those amended features specifically relied on in the following discussion shall be considered as being made to overcome the prior art reference. The following addresses the specific rejections provided in the above-referenced Office Action.

CLAIM 3

Claim 3 stands rejected as being unpatentable over Campbell et al. [USP 5,611,024; “Campbell”] in view of Warmus et al. [USP 5,963,968; “Warmus”] and Histake [USP 5,220,440] for the reasons provided on pages 2-4 of the above referenced Office Action. Applicant respectfully traverses.

As grounds for the rejection, the above-referenced Office Action admits that the primary reference Campbell does not disclose or teach a judgment section as set forth in claim 3 and that Campbell also does not disclose or teach the following wherein clause as set forth in claim 3.

wherein the image processing includes a combining process for main image data and sub image data of the image data, and wherein the pre-processing includes a process for adding to the main image data a blank section to which the sub image data is inserted.

As to the above wherein clause, the Office Action asserts that Warmus, in the same area of image processing and printing teaches, “image processing [that] includes a combining process for main image data and sub image data of the image data” and also having “the pre-processing

including a process for adding to the main image data a blank section to which the sub image data is inserted.” The Office Action also asserts that Histake teaches using a judgment as to whether or not an empty storing area in the storing section is sufficient for storing the compressed image data.”

Thus, it is further asserted in the Office Action that the apparatus taught in Campbell as modified by the teaching of both Histake and Warmus would yield the image processing apparatus of claim 3. Applicant respectfully traverses that the combination would yield the image processing apparatus of claim 3 and more specifically respectfully disagrees with the assertions as to the alleged teaching(s) in Warmus.

In the interests of advancing prosecution and focusing arguments, the following remarks are directed mainly to the disclosures and teaching of Warmus. This shall not, however, be considered or construed as an admission by Applicant of the appropriateness or acceptability of any other asserted teachings in the Office Action as to the Campbell or Histake references. Further, the following remarks shall not be considered or construed as an admission or concurrence that the three cited references are properly combinable in the manner suggested in the Office Action.

For example as previously indicated by Applicant, Campbell discloses a method and system for storing compressed bit map images in a laser printer. As indicated in Campbell (see col. 15, lines 5-10 thereof), if sufficient room does not remain in the destination block 402 to store the data remaining in the ring buffer 404, and any housekeeping space, then a sequence of

steps shown in Fig. 6C, are executed in an effort or attempt to obtain an additional destination block. If the get buffer routine at step 670 **cannot** return an additional buffer, Campbell further provides that step 672 returns unsuccessfully from the compression routine 104. Campbell further describes that the interpreter/ rasterizer 100 then takes whatever steps are appropriate for *an out of memory situation*. The discussion that follows indicates that commercial PDL interpreters typically handle this situation by failing to print and then returning an error code to the host computer. The other described action, basically amounts to an attempt to reduce the amount of image data that would be generated (*e.g.*, reducing print density), thereby reducing the amount of memory that would be needed to perform the print job.

Applicant claims, claim 3, an image-processing apparatus that includes a storing section having a storing area for storing image data that has been compressed and divided and an image processing control section. Such an image-processing control section is configured and arranged (1) so as to preprocess the image data, (2) so as to compresses and divide the pre-processed image data and to store the compressed and divided image data in the storing section ("stored image data"), (3) so as to combine and decompress the stored image data, (4) so as to perform image processing on the combined and decompressed stored image data, and (5) so as to compress and divide the processed image data and to store the compressed and divided processed image data in the storing section.

Such an image-processing control section includes a judgment section that is configured and arrange so as to make a judgment as to whether or not an empty storing area in the storing

section is sufficient for storing the compressed and divided processed image data. The image-processing control section also is further configured and arranged so the image processing on the combined and decompressed stored image data includes a combining process for main image data and sub image data of the image data and so the pre-processing of the image data includes a process for adding to the main image data a blank section to which the sub image data is inserted. Further, such preprocessing is to add to a position corresponding to a mode being set, white data for one page on the page memory, in a case where the image data read out by the scanner is temporarily stored in the page memory.

In contrast to the present invention, Warmus does not disclose nor teach pre-processing of the image data so that it includes a process for adding to the main image data a blank section to which the sub image data is inserted. In this regard reference is made to the following excerpts from Warmus (see col. 7 line 43 through col. 8 line 32).

Referring again to FIG. 5, one or more template files 106 are developed by a publisher specifying the content (including appearance) of fixed information and the positioning of all information (i.e., fixed and variable) on the different books or book versions. A database 108 is also developed by the publisher using the personal computer 54 specifying the content of variable information to be placed in variable information areas, for example, the areas 110, 112 on the pages P1, P4, respectively, of FIGS. 6a and 6b. The database 108 further includes control information, as noted in greater detail hereinafter.

The template files 106 include data specifying the position and content of fixed information on the pages to be printed. Specifically, the template files 106 define template pages wherein each template page includes data representing any fixed information to be reproduced on corresponding pages of the books or book versions and area data representing any area(s) on the corresponding pages where variable information is to be reproduced. The template files are duplicated to create working files. One set of working files is stripped of all area data relating to placement of variable information to create stripped master page files 120

defining template pages having only fixed information thereon. The stripped master page files are then converted into PDL master page files 122 expressed in a page description language, such as PostScript®. An optional imposition process may then convert the PDL master page files 122 into imposed master page files 124 each representing a side of a piece of paper to be printed with at least one, and, likely, two or more template pages having fixed information only thereon. Such a template page may be identical to that shown in FIG. 6a except that the areas 110 and 112 are removed therefrom.

A further set of working files is stripped of all fixed information to create stripped variable page files 126 defining template pages having fixed information removed therefrom and further having the area data defining the areas 110, 112. The data representing template pages having variable information thereon are expanded into a set of intermediate page files. In the example of FIGS. 6a and 6b where three books are to be printed, two intermediate page files 130, 132 are thus produced. The file 130 includes a file portion P1-a defining the position of variable information to be produced on the page P1 for the first book. Two other file portions P1-b and P1-c define the position of variable information to be produced on the front pages of the remaining two books. In like fashion, file portions P4-a, P4-b and P4-c represent the position of variable information to be reproduced on the last pages of the three books. At this point, data are also contained in each of the files 130, 132 identifying the entries in the database 108 to be placed in the areas 110, 112 during printing.

The files 130, 132 are then converted into variable page files 134, 136. The files 134, 136 are identical to the files 130, 132, respectively, except that the data in each file identifying entries in the database are replaced by the actual data stored at such entries.

In other words and as stated explicitly in col. 8, lines 43-46 of Warmus ; the templates are created by a software program that is executed on a computer. Thus, it can hardly be said that the templates in Warmus in any way correspond to image data of an image.

In the foregoing excerpts from Warmus it also is indicated that each template page includes area data representing any area(s) on the corresponding pages where variable information is to be reproduced.

As can be seen from the discussion in col. 8, line 43 through page 9, line 53 of Warmus, a page make-up process is performed by the publisher to input the area data into the template file for each book version to be produced. It also is clear from this discussion in Warmus, that such area data is in the form of text, an image or a line object. As further describe in Warmus, the area data initially inputted into the template is later replaced in the stripped variable page files with the variable information corresponding to the area data by using input from the variable information database 108 (*e.g.*, see col. 12, lines 51-65).

It also is described in Warmus that if there is no variable information, in an optional imposition process the PDL master page files 122 can be converted into "imposed master page files 124 each representing a side of a piece of paper to be printed with at least one, more likely two or more template pages having fixed information only thereon." It also is indicated that in such a case "the template page may be identical to that shown in FIG. 6a except that areas 110 and 112 [areas with area data] are remove therefrom." See also col. 8, lines 1-7 thereof. Therefore, it can hardly be said that the area data in Warmus correspond to a blank section to which the sub image data is inserted as set forth in claim 3.

Moreover, Warmus indicates (see col. 8, lines 38-42 thereof) that the print system 79 operates in response to the press commands in a press command file 140 and merges the page files 122, 137 and 138 (if not imposition is to be effected) or to merge the page files 124 and 139 (if the pages are imposed) to create the finished books or book versions.

In addition, the process described in Warmus for the processing of such data does not correspond to the process set forth in the wherein clause referred to hereinabove. In Warmus, and as described herein, two working files are created from a template page; one being created by stripping out the area data from one working file (*i.e.*, the stripped master page file 120) so as to leave the fixed information and the other being created by stripping out the fixed data from the other working file (*i.e.*, the stripped variable page file(s) 126 so as to leave the area data. The variable information database 108 is then used to create the imposed final variable page file(s). These two files also are separately processed so as to create respectively an imposed master page file 124 with the fixed information and the imposed final variable page file(s) including the variable information. As indicated above, these two files along with the press command file are input into the print system 79.

In sum, Warmus does not describe nor teach, as is claimed by Applicants, an image processing apparatus wherein the image processing includes a combining process for main image data and sub image data of the image data, and also wherein the pre-processing of the image data includes a process for adding to the main image data a blank section to which the sub image data is inserted.

Notwithstanding the foregoing and in the interests of advancing prosecution, Applicant has amended claim 3 to clarify the relationship between the functionalities of such an apparatus as well as clarifying the structure of the image processing control section thereof. More particularly, claim 3 was amended so as to indicate that the image-processing control section is

further configured and arranged so the image processing on the combined and decompressed stored image data includes a combining process for main image data and sub image data of the image data. In this regard it should be remembered that this combined main image data and sub image data is compressed and divided and thereafter stored in the storing section. This process/structure is not suggested or taught anywhere in Warmus as well as not suggesting or teaching the concept of modifying another type of image processing apparatus to do this.

Also, claim 3 was more particularly amended so as to indicate that the image-processing control section of the present invention is further configured and arranged so the pre-processing of the image data includes a process for adding to the main image data a blank section to which the sub image data is inserted. As indicated herein, such a process or structure is not suggested or taught anywhere in Warmus and Warmus does not suggest or teach the concept of modifying another type of image processing apparatus to do this as well. As also indicated herein, it can hardly be said that Warmus describes, teaches or suggest a process in which the area data in the template corresponds to a blank section that is added to the fixed data also provided in the template.

In addition, claim 3 was amended so as to provide that the preprocessing is to add to a position corresponding to a mode being set, white data for one page on the page memory, in a case where the image data read out by the scanner is temporarily stored in the page memory. With this pre-processing of the subject invention, it is possible to secure beforehand a white data area in the area necessary for image combining. Consequently, the combining process is

efficiently performed. While Warmus describes image combining, Warmus does not mention nor describe at all such a pre-processing.

In the present invention, since white data for one page is added before compression and storing at the time of scanning, the addition of white data is done easily. This is so because, to add white data to image data having been compressed and stored, it is necessary to perform a process of decompressing the image data and then adding one line of white data to each line in the main scanning direction. Thus, it is required to perform a process of dividing the data into lines, when the decompression is preformed.

In contrast, when white image is added at the time of image scanning as in the presently claimed invention, white data of one line is added each time data for one main scanning line is supplied from the scanner's CCD. As such, the process is simplified and accelerated because it is not necessary to determine whether or not the number of the line is one during the decompression (see also the figures attached hereto and marked Attachment A).

It is respectfully submitted that claim 3 is patentable over the cited reference(s) for the foregoing reasons.

CLAIM 10

Claim 10 stands rejected as being unpatentable over Campbell et al. [USP 5,611,024; "Campbell"] in view of Warmus et al. [USP 5,963,968; "Warmus"] and Takemoto [USP

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5,841,547] for the reasons provided on pages 4-7 of the above referenced Office Action.

Applicant respectfully traverses.

Applicant respectfully submits that the foregoing remarks provided above distinguishing claim 3 also apply to show that the teaching and suggestions in Warmus if combined as suggested by the Examiner, regarding the within rejection would not yield the image processing apparatus of claim 10. As such, claim 10 is considered to be distinguishable for at least the foregoing reasons.

As indicated herein, in the interests of advancing prosecution and focusing arguments, the remarks in the within Response are directed mainly to the disclosures and teaching of Warmus. This shall not, however, be considered or construed as an admission by Applicant of the appropriateness or acceptability of any other asserted teachings in the Office Action as to the Campbell or Takamoto references. Further, the within remarks shall not be considered or construed as an admission or concurrence that the three cited references are properly combinable in the manner suggested in the Office Action.

For example and as previously indicated by Applicants, the disclosure in Takaoka is not directed to the process for storing data, but rather relates to the process for transmitting image data using the facsimile process from one location to another location. For a color image composed of a color image portion and a binary image portion, Takaoka teaches that the data about the color image portion and the data about a binary image portion are separated from each other by the positional data so each are properly compressed and transmitted. It also is explained

that the positional data about the two image portion are transmitted before the multi-level color image portion and the data portion are transmitted. In other words, Takaoka discloses a facsimile transmission technique and not a technique for storing data where in a pre-processing mode a blank section is added so that the sub-image data can be later inserted during the image processing combining process.

Notwithstanding the foregoing and in the interests of advancing prosecution, Applicant has amended claim 10 to clarify the relationship between the functionalities of such an apparatus as well as clarifying that structure of the pre-processing means thereof. More particularly, this claim was amended so as to indicate that the "pre-processing means carries out a pre-processing for allowing preprocess image data of an image of one of the plurality of pages forming a subject for the combining process to preliminarily possess a blank section that is not related to the image data of the one of the plurality of pages, the blank section corresponding to a location to which the image data of another of the plurality of pages to be combined is to be inserted." This process/structure is not suggested or taught anywhere in Warmus as well as not suggesting or teaching the concept of modifying another type of image processing apparatus to do this.

In addition, claim 10 was amended so as to provide that the preprocessing is to add to a position corresponding to a mode being set, white data for one page on the page memory, in a case where the image data read out by the scanner is temporarily stored in the page memory. With this pre-processing of the subject invention, it is possible to secure beforehand a white data

area in the area necessary for image combining. Consequently, the combining process is efficiently performed. As discussed above in connection with claim 3, while Warmus describes image combining, Warmus does not mention nor describe at all such a pre-processing.

It is respectfully submitted that claim 10 is patentable over the cited reference(s) for the foregoing reasons.

The following additional remarks shall apply to each of the above.

As provided in MPEP 2143.01, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). As provided above, the references cited, alone or in combination, include no such teaching, suggestion or motivation.

Furthermore, and as provided in MPEP 2143.02, a prior art reference can be combined or modified to reject claims as obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Additionally, it also has been held that if the proposed modification or combination would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. Further, and as provided in MPEP-2143, the

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teaching or suggestion to make the claimed combination and the reasonable suggestion of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As can be seen from the forgoing discussion regarding the disclosures of the cited references, there is no reasonable expectation of success provided in the reference(s). Also, it is clear from the foregoing discussion that the modification suggested by the Examiner would change the principle of operation of the device disclosed in the Campbell.

As the USPTO Board of Patent Appeals and Interferences has held, "The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without benefit of appellant's specification, to make the necessary changes in the reference device." *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ351, 353 (BD. Pat. App. & Inter. 1984).

It is respectfully submitted that for the foregoing reasons, claims 3 and 10 are patentable over the cited reference(s) and satisfy the requirements of 35 U.S.C. §103. As such, these claims, including the claims dependent therefrom are allowable.

It is respectfully submitted that the subject application is in a condition for allowance. Early and favorable action is requested.

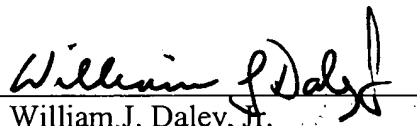
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Applicant believes that additional fees are not required for consideration of the within Response. However, if for any reason a fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, the Commissioner is hereby authorized and requested to charge Deposit Account No. **04-1105**.

Respectfully submitted,
Edwards & Angell, LLP

Date: August 10, 2005

By:


William J. Daley, Jr.
(Reg. No. 35,487)
P.O. Box 55874
Boston, MA 02205
(617) 439- 4444

Customer No. 21,874

Bos2_498344



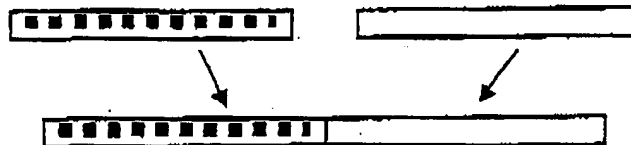
Attachment A

(With pre-proceeding) Image (one main scanning line)
前処理工程 画像 (主走査 1ライン) 白データ (white data)
有り



(If the pre-processing is performed, one white data line is added each time one main scanning line arrives.)

前処理であれば、主走査 1ライン到着ごとに白データ 1ラインを追加すればよい。



(Without pre-proceeding)

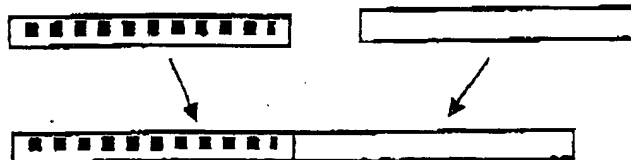
前処理工程
無し

(When the pre-proceeding is not performed, it is necessary to perform a process of dividing the image data into lines when the decompression is performed, in order to add white data after the compression and storing.)

前処理工程が無く、一旦圧縮格納した後に白データを追加しようとしたら、伸張時に 1ラインごとに区切る必要がある。 (compression and storing.)



1ラインごと (dividing the data into lines) に区切る



白データ追加
する
(Adding the white data)